VDH VIRGINIA DEPARTMENT OF HEALTH

Virginia Department of Health
Toxic Substances Information

P.O. Box 2448, 1500 East Main Street, Room 124
Richmond, Virginia 23218 (804)786-1763

FREQUENTLY ASKED QUESTIONS (FAQs) ABOUT CHLORAMINES

The following are some commonly asked questions, and information concerning chloramines and public drinking water supplies.

Chloramines and Public Drinking Water Supplies

Chloramination is one form of water treatment that uses disinfection/oxidation, along with chlorination (gas or hypochlorite, iodination, ozonation, potassium permanganate, and ultraviolet light

***** Other forms of water treatment include:

- ♦ filtration
- ♦ corrosion control
- ♦ ion exchange/demineralization
- ♦ aeration
- ♦ organic/inorganic removal

Q. What are Chloramines?

A. Chloramines are formed when chlorine is combined with small amounts of ammonia.

Q. Why Are Chloramines Used in Water Purification?

A. Chloramines are safe and effective, but react more slowly than chlorine. They stay active longer, and they do not form trihalomethanes when mixing with organics in water. Chloramination reportedly reduces the odor and improves taste of treated water.

Q. What Are Trihalomethanes?

A. The U.S. Environmental Protection Agency (EPA) has determined that some of the compounds in the trihalomethane group may be carcinogenic to humans if consumed in sufficient quantity over a long period of time.

Q. Are Chloramines Safe?

A. Yes. Chloramines have been used safely in the United States and Canada for many years.

Q. Are There Special Considerations for Using Chloramines to Disinfect Public Water Supplies?

A. Yes. Persons on kidney dialysis may be affected. During dialysis, water comes in contact with the blood

and must be pretreated to remove the chlorine and ammonia. Medical treatment centers that perform dialysis are responsible for purifying the water that enters the dialysis machines. If the chloraminated water is not filtered, some dialysis patients develop a type of anemia where the blood cannot carry enough oxygen to the body's cells.

Persons with home dialysis machines should check with their physicians or equipment supplier to determine the proper filtration adjustment to be made prior to use of chlorimated water. Also, rubber components are susceptible to damage from exposure to chloraminated water.

Fresh and salt-water fish in aquaria are sensitive to chlorine and chloramine in water. Special care should be used to neutralize the water prior to exposure.

Q. Can Persons with Kidney Ailments, Diabetes, or on Low Sodium Diets Drink Chloraminated Water?

A. Yes. People with medical problems can use chloraminated water for all purposes.

Q. Do Home Water Softeners Remove Chloramines?

A. Only if the softeners have a granular activated carbon (gac) filter.

Q. Are there any Standards or Guidelines to protect the public from exposure to Chloramines?

A. Yes.

The EPA has proposed a maximum contaminant levels (mcl) and a maximum residual disinfectant levels (mrdl) for chloramines in drinking water of 4.0 milligrams per liter (mg/l).

A Health Advisory (HA) level has been developed for a 1-day, 10-day, and longer-term for children and adults of 1.0 mg/l.

A Reference Dose (RFD), expressed in milligrams per kilogram per day (mg/kg/day) has been determined for adults to be 0.1 mg/kg/day.

Prepared By: Peter C. Sherertz, Ph.D., Toxicologist
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